

# INTERACTIVE WAGERING SYSTEM WITH WIRELESS WAGERING CAPABILITIES

This application claims the benefit of U.S.  
5 provisional application No. 60/186,268, filed March 1,  
2000, which is hereby incorporated by reference herein  
in its entirety.

## Background of the Invention

This invention relates to interactive  
10 wagering, and more particularly, to interactive  
wagering applications with wireless wagering  
capabilities.

Wagering is a popular leisure activity. For  
example, many racing fans wager on events such as  
15 horse, dog, and harness racing. However, it may be  
inconvenient to attend racing events in person. Not  
all racing fans have sufficient time to visit  
racetracks as often as they would like and some fans  
have difficulties in obtaining suitable transportation  
20 to the track. Off-track betting establishments are  
available for fans who cannot attend racing events in  
person, but fans must still travel to the off-track  
betting establishments.

As a result, systems have been developed in  
25 which fans may place off-track wagers using personal

computers connected to the Internet, standard telephones, or set-top boxes.

It is an object of the present invention to improve such systems by providing an interactive  
5 wagering system that has wireless wagering capabilities.

#### Summary of the Invention

An interactive wagering system is provided that supports wireless wagering. An interactive  
10 wagering application may be implemented on the system. The interactive wagering application may allow the users to wager on races such as horse races. A wager may be created by selecting a desired racetrack, race, wager type, wager amount, and horse or horses for the  
15 wager. Wagers may be submitted over wireless links.

Users may use wireless user devices in the home to communicate with in-home user equipment such as a set-top box or personal computer. The wireless user devices that are used to communicate with the in-home  
20 user equipment may be remote controls with displays and other portable computing devices such as handheld computers, web tablets, electronic books, portable computers, etc.

Wagers may be created using the wireless user  
25 devices and may be provided to the in-home user equipment over a wireless link. The in-home user equipment may submit wagers received from the wireless user devices to computer equipment for processing. The wagers submitted to the computer equipment for  
30 processing may be transmitted to the computer equipment over a communications network (e.g., the Internet or

any other suitable communications paths). The computer equipment may be associated with a transaction processing and subscription management system that processes the wagers that are submitted.

5           The system may support multiple users. For example, one user may use a wireless user device to place a wager while another user is using another wireless device to review race results.

10           If desired, users may use wireless user equipment that communicates with the communications network. The wireless user equipment may use protocols such as the wireless application protocol (WAP). Any suitable platform may be used for the wireless user equipment including handheld computers, cellular  
15   telephones, electronic books, portable computers, etc.

          The interactive wagering application may be used to place wagers on various different types of races, including dog races, horse races, harness races, etc.

20           Further features of the invention, its nature and various advantages will be more apparent from the accompanying drawings and the following detailed description of the preferred embodiments.

#### Brief Description of the Drawings

25           FIG. 1 is a schematic diagram of an illustrative interactive wagering system on which an interactive wagering application may be implemented in accordance with the present invention.

30           FIG. 2 is schematic diagram of an illustrative interactive wagering system showing

details of the user equipment used to place wagers in accordance with the present invention.

FIG. 3 shows an illustrative racetrack selection screen that may be provided by the  
5 interactive wagering application in accordance with the present invention.

FIG. 4 shows an illustrative race selection screen that may be provided by the interactive wagering application in accordance with the present invention.

10 FIG. 5 shows an illustrative wager type selection screen that may be provided by the interactive wagering application in accordance with the present invention.

FIG. 6 shows an illustrative horse selection  
15 screen that may be provided by the interactive wagering application in accordance with the present invention.

FIG. 7 shows an illustrative wager amount selection screen that may be provided by the  
interactive wagering application in accordance with the  
20 present invention.

FIG. 8 shows an illustrative wager list screen that may be provided by the interactive wagering application in accordance with the present invention.

FIG. 9 is a flow chart of illustrative steps  
25 involved in allowing the user to wirelessly interact with the interactive wagering application in accordance with the present invention.

FIG. 10 is a flow chart of illustrative steps  
involved in using the interactive wagering application  
30 to support multiple wireless users in a home in accordance with the present invention.

Detailed Description of the Preferred Embodiments

An illustrative interactive wagering system 10 in accordance with the present invention is shown in FIG. 1. Aspects of the invention apply to various different types of wagering, but are described herein primarily in the context of interactive wagering on races (e.g., horse races) for specificity and clarity.

Races may be run at racetracks 12, which may be located at various geographic locations. Races run at the racetracks may be simulcast to television viewers. For example, simulcast videos may be provided to users with satellite receivers or to off-track betting establishments via satellite.

System 10 may be used to provide an interactive wagering service to users of various user equipment. An interactive wagering application may be used to provide the wagering service. The interactive wagering application may run locally on the user equipment (e.g., on a set-top box, personal computer, cellular telephone, handheld computing device, etc.) or may run using a client-server or distributed architecture where some of the application is implemented locally on the user equipment in the form of a client process and some of the application is implemented at a remote location (e.g., on a server computer or other such equipment in the system) as a server process. These arrangements are merely illustrative. Other suitable techniques for implementing the interactive wagering application may be used if desired.

Real-time videos from racetracks 12 may also be provided to video production system 14 for

distribution to users as part of a television wagering service (i.e., a wagering-related television channel or Internet-delivered service or the like). If desired, multiple simulcast videos may be provided to video  
5 production system 14 in real-time. Talent (e.g., commentators) for the television wagering service provided by the interactive wagering application may be located at studio 16. Studio 16 may provide a video feed containing commentary and the like to video  
10 production system 14. Graphic overlays for the television wagering service may be added to the service at video production system 14.

The television wagering service may use video production system 14 to combine selected video segments  
15 from desired racing simulcasts with the video feed from studio 16 and suitable graphic overlays. If desired, video production system 14 or a separate facility may be used to reformat simulcasts from racetracks 12. For example, if racetracks 12 provide simulcasts as  
20 traditional analog television channels, video production system 14 (or a separate facility) may convert these simulcasts or portions of these simulcasts into digital signals (e.g., digital video signals) or into a different number of analog signals.  
25 Digital video signals may require less bandwidth than analog video signals and may be appropriate for situations in which videos are to be transmitted over either high or low bandwidth pathways. Low bandwidth pathways may include telephone lines, the Internet,  
30 etc.

Video production system 14 may be used to provide a television wagering service that includes

selected simulcast videos, video from studio 16, and graphic overlays to television distribution facilities 18 (for redistribution to user television equipment 22 and user computer equipment 20), to user computer 5 equipment 20, and to user telephone equipment 32 (if user telephone equipment 32 has a display capable of displaying moving images). Television distribution facilities 18 may be any suitable facilities for supplying television to users, such as cable system 10 headends, satellite systems, broadcast television systems, or other suitable systems or combinations of such systems. User computer equipment 20 may be any suitable computer equipment that supports an interactive wagering application. For example, user 15 computer equipment 20 may be a personal computer. User computer equipment 20 may also be based on a mainframe computer, a workstation, a networked computer or computers, a laptop computer, a notebook computer, a handheld computing device such as a personal digital 20 assistant or other small portable computer, etc.

Each of television distribution facilities 18 is typically located at a different geographic location. Users with user television equipment 22 may receive the television wagering service from an 25 associated television distribution facility. User television equipment 22 may include, for example, a television or other suitable monitor. A television may be used to watch the television wagering service on a traditional analog television channel. User television 30 equipment 22 may also include a digital or analog set-top box connected to a television distribution facility 18 by a cable path. A digital set-top box may be used

to receive the television wagering service on a digital channel. If desired, user television equipment 22 may contain a satellite receiver, a WebTV box, a personal computer television (PC/TV), or hardware similar to  
5 such devices into which set-top box capabilities have been integrated. A recording device such as a videocassette recorder or digital recording device (e.g., a personal video recorder or digital video recorder based on hard disk drives or the like) may be  
10 used in user television equipment 22 to store videos. The recording device may be separate from or part of the other components of user television equipment 22.

User computer equipment 20 may receive the television wagering service using a video card or other  
15 video-capable equipment to receive analog or digital (e.g., moving picture experts group or MPEG) videos from a television distribution facility. User computer equipment 20 may also receive the television wagering service directly from video production system 14 using,  
20 for example, a modem link. If desired, the video for the television wagering service may be compressed (e.g., using MPEG techniques). This may be useful, for example, if the path to user computer equipment 20 is a modem connection using telephone links. If video  
25 production system 14 is only used to serve user computer equipment 20 without traditional analog television capabilities, video production system 14 may only need to supply such digitally-compressed video signals and not analog television signals.

30 Video clips of races and other simulcast information may be provided to users in the form of a television wagering service or by an interactive



wagering service provided by the interactive wagering application. If desired, race-related videos may be provided to the user by using video production system 14 or other suitable equipment to route appropriate video clips from the simulcasts to the user in real time. Video clips may also be stored for later viewing. For example, one or more video servers located at racetracks 12, video production system 14, television distribution facilities 18, or other suitable locations may be used to store video clips. The stored videos may then be played back in real time or downloaded for viewing at user television equipment 22, user computer equipment 20, or user telephone equipment 32. The video clips may contain videos of races, commentary, interviews with jockeys, or any other suitable race-related information. If desired, real-time or stored videos may be provided from racetracks 12 directly to user television equipment 22, user computer equipment 20, or user telephone equipment 32 over the Internet or other suitable communications paths without involving video production system 14. Videos may also be provided by routing video signals through equipment located elsewhere in system 10. For example, videos may be routed through transaction processing and subscription management system 24.

Transaction processing and subscription management system 24 may contain computer equipment 26 and other equipment for supporting system functions such as transaction processing (e.g., handling tasks related to wagers, product purchasing, adjusting the amount of funds in user accounts based on the outcomes of wagers, video clip ordering, etc.), data

distribution (e.g., for distributing racing data to the users), and subscriber management (e.g., features related to opening an account for a user, closing an account, allowing a user to add or withdraw funds from  
5 an account, changing the user's address or personal identification number, etc.). Databases within transaction processing and subscription management system 24 or associated with system 24 may be used to store racing data, wagering data and other transaction  
10 data, and subscriber data such as such as information on the user's current account balance, past wagering history, individual wager limits, personal identification number, billing addresses, credit card numbers, bank account numbers, social security numbers,  
15 etc. Using such databases may allow the user to access information more quickly and allows for central administration of the wagering service.

If desired, racing videos and other services may be provided using servers and other equipment  
20 located at transaction processing and subscription management system 24. For example, video clips may be provided to the user on-demand. Interactive advertisements may be provided to the user. When the user selects a desired advertisement, transaction  
25 processing and subscription management system 24 may provide additional information or other services related to the advertisement to the user.

Product ordering services may be implemented using computer equipment at transaction processing and  
30 subscriber management system 24 to handle orders and to assist in adjusting the appropriate account of the user accordingly. Orders may be fulfilled using merchandise

fulfillment facilities 34. Merchandise fulfillment facilities 34 may be operated solely to provide merchandise fulfillment or may be associated with independently-operated mail-order or on-line

5 businesses. Similar facilities may be used to allow users to order services.

Statistical racing data such as the post times for each race, jockey names, runner names and the number of races associated with each track,  
10 handicapping information (e.g., information on past performances such as the number of wins and losses for the past year, etc.), and weather conditions at various tracks may be provided by racing data collection and processing system 28. Some of the data may be  
15 collected from racetracks 12 and some may be provided by third party information sources such as Axcis Pocket Information Network, Inc. of Santa Clara, California or other suitable data sources.

Racing data may also be provided from  
20 totalisators 30. Totalisators 30 are the computer systems that may be used to handle wagers made at the racetracks, made at off-track betting establishments, and made using interactive wagering system 10. Totalisators 30 generate wagering odds in real time.  
25 Totalisators 30 generate these odds based on information on which wagers are being placed (e.g., based on information on which wagers are being placed on races at racetracks 12). Totalisators 30 are available from companies such as Amtote International,  
30 Inc. of Hunt Valley, Maryland. Totalisators 30 may be associated with individual racetracks 12 or groups of racetracks 12. Totalisators 30 may communicate with

one another using a communication protocol known as the Intertote Track System Protocol (ITSP). This allows totalisators 30 to share wagering pools. Totalisators 30 may provide racing data including information on the  
5 current races at racetracks 12, the number of races associated with each racetrack, win, place, and show odds and pool totals for each horse or other runner, and exacta, trifecta, and quinella payoff predictions and pool totals for every possible combination of  
10 runners. Totalisators 30 may also provide current odds and other real-time racing data for other types of wagers. Totalisators 30 may provide the time until post time for each race.

Totalisators 30 may provide race results,  
15 such as the order-of-finish list for at least the first three positions and payoff values versus a standard wager amount for win, place, and show, for each runner in the finish list. Payoff values may be provided for winning complex wager types such as exacta, trifecta,  
20 quinella, pick-n (where n is the number of races involved in the pick-n wager), and daily double. The payoff values may be accompanied by a synopsis of the associated finish list.

Totalisators 30 may also provide program  
25 information of the type typically provided in printed racing programs. Such program information may include early odds, early scratches, race descriptions (including the distance of each race and the race surface - grass, dirt, artificial turf, etc.), allowed  
30 class ratings (based on a fixed ratio of external criteria), purse value (payoff to winning runner),

allowed age range of runners, and the allowed number of wins and starts for each runner.

If desired, some of the information provided to transaction processing and subscription management system 24 by totalisators 30 (such as the program information or other suitable racing data) may be provided by racing data collection and processing system 28. Similarly, some of the information provided to transaction processing and subscription management system 24 by racing data collection and processing system 28 may be provided by totalisators 30. Moreover, the foregoing examples of different suitable types of racing data are merely illustrative. Any suitable data related to racing may be provided to transaction processing and subscription management system 24 if desired.

Transaction processing and subscription management system 24 provides the racing data to users at user television equipment 22, user computer equipment 20, and user telephone equipment 32 for use in following race results and developing wagers. If desired, racing data may be provided to users using paths that do not directly involve transaction processing and subscription management system 24. For example, racing data may be provided from racing data collection and processing system 28 to user television equipment 22, user computer equipment 20, or user telephone equipment 32 using the Internet or other suitable communications paths.

User telephone equipment 32 may be a conventional telephone, a cordless telephone, a cellular telephone or other portable wireless

telephone, or any other suitable telephone equipment.  
Users at user television equipment 22 and user computer  
equipment 20 may view information on the racing data on  
a television or other suitable monitor. Users at user  
5 telephone equipment 32 may listen to racing data using  
an interactive voice system. User telephone equipment  
32 may be based on cellular telephones with displays.  
Users may view racing data displayed on such displays.

Users who wish to place wagers may establish  
10 an account at transaction processing and subscription  
management system 24. An account may also be  
established at one of totalisators 30. The user and  
the interactive wagering services may have their own  
bank accounts at financial institutions 38. A user may  
15 set up an account electronically by using user  
television equipment 22, user computer equipment 20, or  
user telephone equipment 32 to interact with the  
subscriber management functions of transaction  
processing and subscription management system 24. If  
20 desired, accounts may be established with the  
interactive wagering service with the assistance of  
customer service representatives at customer service  
facility 36. Customer service facility 36 may be at  
the same location as transaction processing and  
25 subscription management system 24, may be part of  
system 24, or may be located remote from system 24.  
Customer service representatives at customer service  
facility 36 may be reached by telephone. If user  
telephone equipment 32 is used to access the  
30 interactive wagering service, for example, user  
telephone equipment 32 may be used to reach the  
customer service representative using communications

path 42. If user television equipment 22 or user computer equipment 20 is being used with the service, a telephone at the same location as that equipment may be used to reach the customer service representative.

5           The user's identity may be checked using social security number information or other identification information with the assistance of subscriber verification facility 40. The services of subscriber verification facility 40 are used to ensure  
10 that the user lives in a geographic area in which wagering is legal, that the user is of a legal age, and that the identification information (e.g., the user's social security number) matches the name provided by the user. If the user is using a cellular telephone or  
15 handheld computing device, the user's present physical location may be determined by determining which general part of the cellular telephone network is being accessed by the user or by using the cellular network or a handset-based location device such as a global  
20 positioning system (GPS) receiver in the body of the cellular telephone to pinpoint the user's location. This location information may be used to verify that the user is located in a geographic area where wagering is legal.

25           In a typical enrollment process, the user provides personal information to the interactive wagering service and provides funds with a credit card or funds from the user's bank account. The interactive wagering service sets up an account for the user at  
30 transaction processing and subscription management system 24 and directs one of totalisators 30 to set up a new account for the user at the totalisator. The

totalisator is also directed to credit the user's account to reflect the amount of funds provided by the user. After the user places a wager and wins or loses, the totalisator adjusts the user's totalisator account  
5 to reflect the outcome of the wager. The totalisator may periodically inform the interactive wagering service of the adjusted balance in the user's account. This may be accomplished using any suitable technique (e.g., periodically, continuously, on-request, etc.).  
10 For example, reports may be collected periodically (e.g., once a day in an end-of-day report) and provided to the interactive wagering service to reconcile the account balances at transaction processing and subscription management system 24 with the account  
15 balances at totalisators 30.

If the user makes a balance inquiry, the inquiry may be passed to the appropriate totalisator by transaction processing and subscription management system 24. If the user is charged a fee for  
20 subscribing to the service, the service may debit the fee from the user's account at the transaction processing and subscription management system 24.

The accounts at totalisators 30 and transaction processing and subscription management  
25 system 24 are typically maintained separately, because the business entities that operate totalisators 30 and transaction processing and subscription management system 24 are independent. If desired, financial functions related to opening and maintaining user  
30 accounts and the like may be handled using computer equipment at another location such as one of financial institutions 38 or other location remote from



totalisators 30 and system 24. Such financial functions may also be implemented primarily at a totalisator 30 or primarily at the transaction processing and subscription management system 24 if  
5 desired.

Users at user television equipment 22, user computer equipment 20, and user telephone equipment 32 may place wagers by providing wagering data and otherwise interacting with transaction processing and  
10 subscription management system 24. The interactive wagering service may provide a user at user television equipment 22, user computer equipment 20, or user telephone equipment 32 that has display capabilities with screens containing various racing data. For  
15 example, the user may be presented with screens that allow the user to view the current odds for horses in an upcoming race at a given track.

The service may provide the user with interactive screens containing menus and selectable  
20 options that allow the user to specify the type of wager in which the user is interested and the desired wager amount. With a set-top box arrangement, for example, the user may use a remote control or wireless keyboard to navigate the various menus and selectable  
25 options. With a personal computer, the user may use a keyboard, mouse, trackball, touch pad, or other suitable input or pointing device. With a cellular telephone with a display, the user may use buttons on the telephone. When the user has made appropriate  
30 selections to define a desired wager, the user television equipment, user computer equipment, or user telephone equipment may transmit wagering data for the

wager to transaction processing and subscription management system 24.

Users with telephones may also interact with the service using an interactive voice response system located at transaction processing and subscription management system 24. The interactive voice response system may present menu options to the user in the form of audio prompts (e.g., "press 1 to select a \$2 wager amount," etc.). The user may interact with the service by pressing the corresponding buttons on a touch tone telephone. User telephone equipment 32 that is based on cellular telephones allows the user to interact with the wagering service in this way. User telephone equipment 32 that is based on cellular telephones with messaging and display capabilities also allows the user to interact visually with the interactive wagering service.

The components of system 10 may be interconnected using various communications paths 44. Communications paths 44 may include satellite paths, coaxial cable paths, fiber-optic paths, twisted pair paths, other wire or cable-based links, wireless paths through free space, or any other suitable paths or combination of such paths. Communications over paths 44 may involve analog transmissions, digital transmissions, wireless transmissions, microwave transmissions, radio-frequency transmissions, optical transmissions, audio transmissions, or any other suitable type of transmissions or combination of such transmissions. Communications may involve Internet transmissions, private network transmissions, packet-based transmissions, television channel transmissions,

transmissions in the vertical blanking interval of a television channel or on a television sideband, MPEG transmissions, etc. Communications may involve wireless pager or other messaging transmissions.

- 5 Communications paths 44 may include cable connected to cable modems, digital subscriber lines, integrated services digital network (ISDN) lines, or any other suitable paths. Examples of suitable communications paths are described below. Those examples are, however, merely illustrative. Any of the communications path arrangements described above or other suitable arrangements may be used if desired.

- Communications paths that carry video and particularly uncompressed analog video or lightly-compressed or full-screen digital video generally use more bandwidth than communications paths that carry only data or that carry partial-screen digital video. For example, if it is desired to transmit high-quality simulcasts of races from racetracks 12 to video production system 14, analog or digital videos may be transmitted from racetracks 12 to video production system 14 over path 44a using satellite links. Video may be transmitted from studio 16 to video production system 14 over path 44b using a satellite link or a high-speed terrestrial path such as a fiber-optic path. Studio 16 may also be located at the same site as video production system 14, thereby avoiding the need for a long-haul transmission path. Videos may be transmitted from video production system 14 to user computer equipment 20 over path 14c using a modem link (using, for example, a digital subscriber line, a telephone

network link, a wireless link etc.) The modem link may be made over a private network.

A user with a cable modem may connect a personal computer or other such user computer equipment  
5 20 to an associated cable system headend using path 44d. (The headend in such an arrangement would be one of the television distribution facilities 18 shown in FIG. 1.) The user may then receive videos from the headend via cable modem. Videos may be provided to the  
10 headend over path 44e using a network link, fiber optic links, cable links, microwave links, satellite links, etc. A user with a set-top box or similar device (shown in FIG. 1 as user television equipment 22) may also receive videos from a cable system headend using a  
15 cable modem or other such communications device over path 44f. In addition, a user with user television equipment may receive videos over the Internet or a private network using a telephone-based modem or other such communications device using path 44g. In a system  
20 with distributed processing, interactive wagering services may be provided using a television distribution facility 18 that includes equipment that supplements or replaces at least some of the equipment at transaction processing and subscription management  
25 system 24.

If desired, user television equipment 22 or user computer equipment 20 may receive analog or digital videos from an associated television distribution facility over the communications paths  
30 normally used to distribute television programming (e.g., paths 44f and 44d). For example, videos may be received as part of a dedicated interactive wagering

service television channel. If videos are provided as digital signals (e.g., MPEG signals), 10 or more digital videos may be carried on a single analog channel (or one digital video may be carried on one-  
5 tenth of the bandwidth of an analog channel). If the videos are not full-screen videos, even more videos may be simultaneously provided without a loss of image quality.

Racing videos may be provided to user  
10 telephone equipment 32 over a partially-wireless telephone Internet link or other telephone link using path 44n.

If desired, racing data may accompany the racing videos along any of these paths. Moreover,  
15 racing videos may be provided by routing them directly from racetracks 12 to user television equipment 22, user computer equipment 20 (e.g., over the Internet or a private network, etc.), or user telephone equipment 32. Racing videos may also be provided by routing them  
20 through transaction processing and subscription management system 24. If a cellular telephone or portable computing device has sufficient display capabilities to support moving images, racing videos may be displayed. Such videos may be provided using  
25 any suitable path, such as a direct path from racetracks 12, a path through video production system 14 or other suitable video processing equipment, through a hub such as transaction processing and subscription management system 24, etc. Racing videos  
30 may be provided in real time or may be recorded for later distribution. Videos that are not provided in real-time may be downloaded by user television

equipment 22, user computer equipment 20, a cellular telephone, or other suitable user equipment at a lower data rate than would otherwise be required and may be downloaded in the background if desired. Such videos  
5 may also be provided to the user at real-time video rates for direct viewing by the user.

Racing data and other information related to the interactive wagering service may be provided to users over paths connected to transaction processing  
10 and subscription management system 24. For example, racing data and other data for the service may be provided to user computer equipment 20 over path 44h using a modem link. Path 44h may be a private network path or an Internet path. Path 44h may use telephone  
15 lines, digital subscriber lines, ISDN lines, wireless data paths, or any other suitable type of communications links. User television equipment 22 may receive data for the wagering service over communications path 44i, which may be a telephone line,  
20 digital subscriber line, ISDN line, or other suitable type of communications path and which may use a private network path or an Internet path, etc.

Data for the wagering service may be provided to users of the interactive wagering application via  
25 communications path 44j and paths 44f and 44d. Communications path 44j may be provided over a private network, using the public telephone network, using satellite links, or any other suitable type of links. Data from paths such as path 44j may be routed to paths  
30 such as paths 44f and 44d directly by associated television distribution facilities 18, or may be buffered at television distribution facilities 18 if

desired. Paths 44f and 44d may include coaxial cable and use of paths 44f and 44d may involve the use of cable modems or the like. If data is provided over path 44j and path 44f or path 44d using an Internet  
5 protocol, a web browser or similar software running on user television equipment 22 or user computer equipment 20 may be used to access the data. Such software may be integrated into the interactive wagering application or may be used separately. Software may also be used  
10 to view videos and may be used on other platforms (e.g., advanced cellular telephones) if desired.

The communications paths 44k that are used to connect various other components of the system typically do not carry high-bandwidth video signals.  
15 Accordingly, paths 44k may be telephone-like paths that are part of the Internet or a private network. Such paths and various other paths 44 may be dedicated connections for security, reliability, and economy.

User telephone equipment 32 may receive  
20 information for the wagering service via path 44m. If user telephone equipment 32 is a standard (non-cellular) telephone, such information may be in the form of audio prompts ("press 1 to place a wager") and audio racing data ("the current win odds for horse 2  
25 are 5-1"). Transaction data processing and subscription management system 24 may contain interactive voice response equipment that provides such information to the user and that responds to touch-tone signals from the user when the user responds to prompts  
30 by pressing buttons on the user's telephone.

If user telephone equipment 32 is a cellular telephone, racing data and other information for the

interactive wagering service may be provided to the user by using a cellular wireless connection as part of path 44m. Users with cellular telephones may be provided with audio prompts using an interactive voice  
5 response system located at transaction processing and subscription management system 24 to which the users may respond by pressing cellular telephone buttons to generate touch-tone signals.

Racing data and other information for the  
10 interactive wagering service may be provided to cellular telephones in the form of alphanumeric messages. Such messages may be transmitted to the user by using paging or other alphanumeric messaging formats or any other suitable data communications scheme. If  
15 desired, data may be provided to the cellular telephones over the voice channel and decoded by the cellular telephone using modem circuitry or other suitable circuitry. Data may also be provided using any other suitable cellular or wireless path.  
20 Regardless of the way in which racing data and other information for the interactive wagering service are provided to the cellular telephone, such information may be provided to the user by displaying it on the cellular telephone display screen or by presenting it  
25 in audible form through the speaker of the cellular telephone.

Racing data and other interactive wagering service information for the users may be provided in one or more continuous data streams, may be provided  
30 periodically (e.g., once per hour or once per day), or may be provided using a client-server arrangement in which data is requested by a client processor (e.g.,



user television equipment 22, user computer equipment 20, user telephone equipment 32, or any other such equipment) from a server (e.g., a server implemented using computer equipment 26 at transaction processing and subscription management system 24 or computer equipment at another suitable location). Videos may also be provided using any of these techniques.

A return communications path between the user and the interactive wagering service may be used to allow the user to place wagers and otherwise interact with the interactive wagering service. For example, a user with a standard telephone or a cellular telephone may interact with the service by pressing touch-tone keys on the telephone in response to audio prompts provided by an interactive voice response system at transaction processing and subscription management system 24. If desired, users may call customer service representatives at customer service facility 36 and place wagers with manual assistance. The user of a cellular telephone may interact with the wagering service by selecting menu options and otherwise interacting with information displayed on the cellular telephone. When a selection is made, software implemented on the telephone may be used to assist the user in transmitting appropriate data (e.g., wagering data) to the wagering service. Such data may be transmitted using any suitable technique. For example, data may be transmitted using a wireless data link that is separate from the cellular voice channels. Data may also be transmitted over the voice channel (e.g., using a modem built into the cellular telephone, by automatically generating touch-tone signals that may be

recognized by the interactive voice response system at transaction processing and subscription management system 24, or using any other suitable arrangement). These approaches may be used even if the user receives racing data and other information for the service using a platform other than a telephone-based platform.

Users with user television equipment 22 may interact with the service by sending data (e.g., wager data) to transaction processing and subscription management system 24 using path 44i or using paths 44f and 44j. Users with user computer equipment 20 may send data (e.g., wager data) to transaction processing and subscription management system 24 via path 44h or paths 44d and 44j. Users at any user equipment may send data for the service to locations other than transaction processing and subscription management system 24. For example, the user may provide information directly to customer service facility 36, etc.

If desired, the user may send data to the service at transaction processing and subscription management system 24 using different paths than those used to receive data from transaction processing and subscription management system 24. For example, racing data may be received at user television equipment 22 via paths 44j and 44f, whereas data may be sent by the user from user television equipment 22 to transaction processing and subscription management system 24 using path 44i, etc. Moreover, the paths used to receive certain video information may be different from those used to receive racing data. For example, user television equipment 22 may receive racing videos using

path 44f, but may receive racing data using path 44i. These examples are merely illustrative. Any suitable combination of paths may be used to distribute racing data and other information for the interactive wagering service, any suitable combination of paths may be used to receive videos, and any suitable combination of paths may be used to send data to the wagering service.

If desired, the user may interact with the wagering service using more than one platform. For example, the user may place a wager using a cellular telephone while the user is driving home. When the user arrives home, the user may determine the outcome of the wager by watching a video of the race on user television equipment. Later in the day, the user may check the user's account balance using a personal computer. This is merely an illustrative example. The various wagering platforms may be used in any suitable combination.

Although system 10 has been described in the context of a system that supports multiple wagering platforms, system 10 may support fewer platforms if desired.

The wireless wagering features of the present invention are described herein primarily in the context of an interactive wagering application that is implemented using in-home user equipment such as user computer equipment 20 or user television equipment 22 that includes at least one wireless user device (e.g., a remote control, handheld computer, electronic book, web tablet, portable computer, etc.) or that is implemented using wireless user equipment (e.g., a handheld computer, cellular telephone, electronic book,

portable computer, etc.). This is only illustrative. An interactive wagering application implemented on any suitable platform may be used to provide wireless wagering features if desired.

5           The interactive wagering application may be implemented using application software that runs primarily on user television equipment, user computer equipment, user telephone equipment, or other local platform, or using a remote server or other computer  
10 that is accessed from the local platform. Arrangements in which interactive wagering services are implemented using software on remote computers that is accessed on-demand from local platforms may be referred to as client-server arrangements. Such client-server  
15 arrangements may be used to allow client processes on set-top boxes or other platforms to access server processes running on servers located at cable system headends or other television distribution facilities 18 (FIG. 1). Regardless of the type of system  
20 architecture or platform used, the software that supports the interactive wagering service features described herein may be referred to as an interactive wagering application.

As shown in FIG. 2, a communications network  
25 such as communications network 140 may be used to interconnect user equipment 142 and wireless user equipment 144 with transaction processing and subscription management system 24, television distribution facilities 18, and video production system  
30 14. Communications paths 44p and wireless communications path 44q may be used to connect user equipment 142, wireless user equipment 144, transaction

processing and subscription management system 24,  
television distribution facilities 18, and video  
production system 14 to communications network 140.  
Wireless communications path 44s may be used to connect  
5 wireless user equipment 144 to communications equipment  
141 at track 143. Communications equipment 141 may be  
any suitable communications and computing arrangement  
such as a computer with associated communications  
circuitry. Communications equipment 141 may include  
10 wireless communications equipment suitable for  
communicating with wireless user equipment 144 over a  
wireless link. The wireless communications equipment  
may support communications at 900 MHZ, 2.4 GHz, any  
suitable frequency in the range used to support  
15 cordless telephone operations, any suitable Bluetooth  
frequency, or any other suitable frequency for wireless  
communications. Communications equipment 141 may be  
connected to communications network 140 by  
communications path 44t. Communications equipment 141  
20 may be part of a local network at track 143 that  
supplies access to wagering functions and information  
on wagering or that may serve as a wireless access node  
for communications network 140 (which allows the user  
to connect to transaction processing and subscription  
25 management system 24). The user may place wagers with  
transaction processing and subscription management  
system 24 by transmitting electronic wagers to  
transaction processing and subscription management  
system 24 via path 44s, communications equipment 141,  
30 path 44t, and communications network 140. Wagering  
information from transaction processing and

subscription management system 24 may be received through this path.

Communications network 140 may be any suitable communications network. For example, 5 communications network 140 may use any of the communications paths 44 of FIG. 1. Communications paths 44p and 44t may also use any of the communications paths 44 of FIG. 1. Communications paths 44q and 44s may be, for example, a cellular 10 wireless path, any suitable wireless path to a wireless network station or other suitable base station such as an FM wireless path, a 900 MHZ path, a 2.4 GHz wireless path, any suitable path of the type used to support cordless telephone communications, any Bluetooth 15 communications path, a cellular telephone wireless path to a base station in communications network 140, a satellite path, etc. Communications paths 44q and 44s may use any of the wireless communications paths 44 of FIG. 1. The communications paths 44p, 44q, 44s, and 20 44t and communications network 140 may use wired paths such as fiber optic paths, cable paths, twisted pair paths or other suitable wired paths or wireless paths such as radio-frequency wireless paths or infrared wireless paths, combinations of such paths or any other 25 suitable paths. Any suitable communications protocols may be used to support communications over communications network 140 and paths 44p, 44q, 44s, and 44t. For example, communications between wireless user equipment 144 and network 140 over communications path 30 44q or between wireless user equipment 144 and communications equipment 141 may use the wireless application protocol (WAP).

Wireless user equipment 144 may be user computer equipment 20 (FIG. 1), user television equipment 22 (FIG. 1), or any other suitable user equipment suitable for wireless communications. For  
5 example, wireless user equipment 144 may be a handheld computer that communicates with network 140 over a radio-frequency wireless link with a base station in network 140. Wireless user equipment 144 may also be a cellular telephone with a display and processing  
10 capabilities, a portable computer, an electronic book, or any other suitable computing device with wireless communications capabilities.

A user of an electronic book or other wireless user equipment may, for example, connect to a  
15 local network at track 143 to view information on races at that track or to otherwise interact with features and services provided by communications equipment 141 and to connect to the interactive wagering service via communications equipment 141, communications path 44t,  
20 communications network 140, communications path 44p, and transaction processing and subscription management system 24.

A suitable electronic book may be the SoftBook® Reader of Softbook press, Redwood City, California or  
25 hardware based on a platform such as the SoftBook Reader platform. The electronic book may have a cover formed out of leather or plastic or any other suitable protective material. The electronic book may have a display such as a back-lit monochrome or color liquid  
30 crystal display (LCD). The display may be a touch-screen, so that a user may select on-screen options that are displayed on the display by touching them.

The size of the display on the electronic book may be selected to be comparable to that of a sheet of paper (e.g., roughly 8½ inches by 11 inches). This is merely illustrative. Any suitable size may be used for display of the electronic book if desired. The electronic book may have controls such as page navigation buttons that allow the user to page forward and backward through material displayed on the display.

*Tab 217*

~~Wireless user equipment 142 may include in-~~  
10 home user equipment 146 and wireless user device 148. In-home equipment 146 and wireless user device 148 may communicate over wireless communications path 44r. Communications path 44r may be any suitable wireless communications path such as a radio-frequency or  
15 infrared wireless path. Examples of suitable radio-frequency paths are paths based on the Bluetooth protocol, paths that support communications at 900 MHz, 2.4 GHz, any suitable frequency in the range used to support cordless telephone operations, any suitable  
20 Bluetooth frequency, or any other suitable frequency for wireless communications.

In-home user equipment 142 may be any suitable in-home computing equipment, such as a television set-top box, a personal computer, etc.  
25 Wireless user device 148 may be any suitable wireless user device such as a remote control with a display (a "display remote") or other portable computing device such as a handheld computer, an electronic book, a portable computer (e.g., a portable computing device  
30 that uses either a wired or wireless keyboard or a computing device such as a pen-based computer tablet or ~~the like), a web tablet, etc.~~



Wireless user device 148 may be used as a controller or data input device for in-home user equipment 146. For example, a remote control may be used to input data that is processed by a set-top box  
5 before being transmitted to transaction processing and subscription management system 24. Wireless user device 148 may also be used as a display device. For example, on-screen options may be displayed on the display of a remote control or on the display of an  
10 electronic book or other device. Audio may also be presented through wireless user device 148.

In-home user equipment 146 may act as a dumb retransmission device for wireless user device 148 (e.g., by using an internal modem to handle information  
15 provided to and received from communications network 140) or may act as a cache or proxy server in cooperation with a server at transaction processing and subscription management system 24 (e.g., a server on computer equipment 26). These are merely illustrative  
20 examples. In-home user equipment 146 and wireless user device 148 may be used in any suitable configuration, provided that the configuration allows the user to use the interactive wagering application to access and display information (e.g., handicapping information,  
25 race results, odds, and other racing data) and to interact with various options (e.g., on-screen options that are displayed on the display of wireless user device 148 for creating and placing wagers).  
Advertisements and any other suitable content may be  
30 provided to wireless user device 148 from in-home user equipment 146. Such content may be provided to in-home

user equipment 146 from a server or other source connected to communications network 140.

Any suitable technique may be used to launch or access the interactive wagering application. For example, the user may be presented with on-screen options on the display of wireless user device 148 or wireless user equipment 144 that the user may select to start the application. If desired, the application may be accessed automatically whenever certain criteria are satisfied (e.g., whenever the user tunes to a particular television channel or accesses a particular web site, etc.).

*FIG. 2* ~~Illustrative screens that may be displayed on~~  
the display of wireless user device 148 or wireless  
user equipment 144 by the interactive wagering  
application are shown in FIGS. 3-8. In the  
illustrative examples of FIGS. 3-8, options are  
displayed using screens that are particularly suitable  
for relatively large displays, such as displays of the  
type found on electronic books, portable computers, web  
tablets or the like that are viewed at relatively short  
distances. In arrangements in which the interactive  
wagering application displays screens on televisions or  
other such monitors that are viewed at a distance  
(e.g., television-based arrangements), the on-screen  
options and other content generated by the interactive  
wagering application may be made larger. In  
arrangements involving small screens that are viewed up  
close (e.g., handheld computers or cellular telephones  
with displays), scrolling may be used to access  
portions of screens that are too large to fit on the  
~~small display all at once. If desired, the options and~~

*FIG. 227* ~~content of screens such as screens 3-8 may be presented using additional menu screens (e.g., additional layers of menus or the like).~~

With platforms that have buttons, options may  
5 be selected by highlighting the options using  
navigation keys such as arrow keys and by pressing an  
appropriate selection key such as an OK or enter or  
select key. With platforms that use touch screens,  
options may be selected by touch. In cellular  
10 telephone arrangements and handheld computer  
arrangements, options and information may be displayed  
using smaller screens than are typically available on  
personal computer or set-top box arrangements. To  
accommodate the smaller screen size, options that might  
15 otherwise be presented on a single screen may be  
displayed using multiple screens or layered menus.  
Options may be selected by highlighting them using  
navigation keys and pressing an appropriate select  
button on the cellular telephone or handheld computing  
20 device or by using a pen-based interface or the like.  
If desired, the information and options provided by the  
interactive wagering application may be provided using  
audio clips and audio prompts to accommodate telephone-  
based wagering from touch-tone telephones without  
25 display screens.

An illustrative display screen 46 that may be  
provided by the interactive wagering application is  
shown in FIG. 3. Screen 46 may include a race ticket  
region 48 in which information about the wager that the  
30 user is currently building may be displayed. A list 50  
of tracks may be provided from which the user may  
select a desired racetrack for which to place a wager.

For example, the user may click on a track name of interest by using a mouse, trackball, or other pointing device to move pointer 52 on top of the desired name in list 50.

5               Track status information 54 may be provided for each track. For example, information may be provided on whether the track is open or closed.

              If desired, information 56 may be provided that indicates the current race at each track. Post  
10 time information 58 may be provided for races that are still open.

              After the user of the interactive wagering application selects a desired racetrack from screen 46, the application may display a race selection screen  
15 such as screen 60 of FIG. 4. As shown in FIG. 4, screen 60 may contain track information 62 in the race ticket region 48. Track information 62 shows the user which racetrack was selected using screen 46.

              A list 64 of available races at the selected  
20 track may be displayed. The user may select a desired race from list 64 by clicking on the name for the race. The user may view race results for races that have been run by clicking on an associated race results option.

              Race status information 66 may indicate which  
25 races are open and which races are closed.

              Post time information 68 may indicate the post times for each race.

              The user may return to track selection screen 46 of FIG. 3 to select a different track by selecting  
30 track option 70.

              On screen 60 and the other screens of FIGS. 3-8, tabs 72 may be used to indicate the user's present

location within the interactive wagering application. The user may select from proBet (a streamlined wagering interface for experienced users), easyBet (a more full-featured interface for novice users), Handicap  
5 (features that allow the user to obtain handicapping information), track info (information on various racetracks), player info (features that support wagering by multiple users), setup (for setting up various settings of the interactive wagering  
10 application), and help (context-sensitive help information).

A bar 74 or other suitable region may be displayed below tabs 72 (or in any other suitable location) that indicates the user's location within the  
15 wager creation process. The user's current location (e.g., the race selection menu of screen 60) may be indicated by coloring the appropriate word (e.g., the word "race" in the example of FIG. 4).

After the user has selected a desired race at  
20 the selected racetrack, the user may be presented with a screen such as screen 76 of FIG. 5. Screen 76 may allow the user to select a wager type for the wager. On screen 76, race ticket region 48 may be updated to include information 78 on which race was selected on  
25 screen 60. In the example of FIG. 5, the information 78 reflects that the selected race is race No. 7.

If desired, a default wager type may be highlighted on screen 76. In the example of FIG. 5, option 80 for a win wager has been highlighted. If the  
30 user wishes to place a win wager, the user may proceed to the horse selection menu by selecting horse option 82. If the user would like to place a different type

of wager (e.g., a place wager, a show wager, etc.), the user may select one of the other wager type options 84 by clicking on that option. Information 86 may be provided in race ticket region 48 that indicates the highlighted wager type.

The user may return to race selection screen 60 by selecting option 88.

~~After the has selected a desired wager type (e.g., a win wager in the example of FIG. 5), the interactive wagering application may present a horse selection screen to the user such as horse selection screen 90 of FIG. 6. Information 86 may be included in race ticket region 48 to indicate which wager type has been selected.~~

If desired, the user may select one or more horses for the wager by clicking on the appropriate horse options 92.

In the example of FIG. 6, the user may return to wager type selection screen 76 of FIG. 5 by selecting option 98. The user may advance towards completing the wager by selecting amount option 100.

If the user selects amount option 100 of FIG. 6, the user may be presented with a screen such as amount selection screen 102 of FIG. 7. In amount selection screen 102, race ticket region 48 may include information 104 on the selected horse. In the example of FIG. 7, information 104 reflects that the user has selected horse number 2 for a win wager.

Race ticket region 48 in FIG. 7 also contains information 106 that reflects the default highlighted wager amount. Information 107 reflects the total cost of the wager, which may differ from the cost

FIG. 23

FIG. 23

represented by information 106 when, for example, multiple horses have been selected for a wager that requires only one horse.

In the example of FIG. 7, \$2 option 108 is highlighted by default and information 106 reflects this amount. Because this feature may be used by novices, it may be desirable for the default amount to be set at \$2. The \$2 amount is merely illustrative. Any suitable amount may be selected as a default. Moreover, no default amount need be selected.

If the user desires to change the default amount to another amount, the user may select one of the other wager amount options 110.

Option 112 may be provided to allow the user to return to horse selection screen 90.

When the user is ready to place the wager, the user may select bet queue option 114.

When the user selects bet queue option 114, the interactive wagering application may present a screen such as wager list screen 116 of FIG. 8. Screen 116 may contain information 118 on the selected track for the wager, information 120 on the selected race number for the wager, and information 122 on the selected wager amount for the wager. Information 124 may also be included on the selected wager type for the wager. Information 126 may be presented on which horses have been selected for the wager. If the race involves runners other than horses (e.g., dogs, etc.), the numbers for those runners may be presented instead of horse numbers.

Information 128 on the cost of each wager may be presented in a column. The total cost 130 of all of the wagers added together may also be presented.

Option 131 may be provided to allow the user  
5 to delete selected wagers from the list of screen 116. Duplicate option 132 may allow the user to duplicate a wager.

The interactive wagering application may support multiple users. For example, multiple users in  
10 a home with individual wireless user devices 148 may access the interactive wagering application through common in-home user equipment 142 (FIG. 2) or multiple users may share a common wireless user device 144 (FIG. 2). Personal identification numbers (PINs) may be  
15 created for each user. When the user enters a PIN when signing into the system, the interactive wagering application may look up the user's name and may display the user's name in region 134.

Amount option 136 may be used to return wager  
20 amount screen 102 of FIG. 7.

When the user is satisfied with the wagers listed in screen 116, the user may select send in saved wagers option 138. This submits the wagers from the user's device (e.g., from wireless user equipment 144  
25 of FIG. 2 or from wireless user device 148 through in-home user equipment 146 of FIG. 2, etc.) to transaction processing and subscription management system 24 (FIGS 1 and 2). Transaction processing and subscription management system 24 may then process the wager and  
30 credit or debit the user's account according to the results of the race.



Illustrative steps involved in using user equipment such as wireless user equipment 144 of FIG. 2 and user equipment 142 of FIG. 2 are shown in FIG. 9. After the interactive wagering application has been  
5 launched (either automatically when the user views certain content or the like or manually when the user selects a particular on-screen option or presses a particular button), a wireless communications link may be established (or may be maintained if already  
10 established) between the wireless user device 148 and in-home user equipment 146 or between wireless user equipment 144 and communications network 140.

At step 152, the interactive wagering application may provide the user with an opportunity to  
15 create a wager. For example, the interactive wagering application may present screens such as the screens of FIGS. 3-8 to provide the user with on-screen options that allow the user to select a desired racetrack for a wager, select a desired race, select a wager type,  
20 select a wager amount, and select one or more horses for the wager. The interactive wagering application may also present options to the user that allow the user to view race results for previously run races, to view handicapping information (e.g., information on  
25 past performances, information on jockeys, trainers, and owners, etc.), view account information, etc. The race results may include videos provided from video production system 14 or other suitable source. If desired, real-time race videos may be provided.

30 At step 154, after the user has created a wager, the interactive wagering application may provide the user with an opportunity to wirelessly submit the

wager. If the user is located at wireless user device 148 of FIG. 2, the wager may be wirelessly transmitted from wireless user device 148 to in-home user equipment 146 over wireless communications path 44r and

5 subsequently provided to transaction processing and subscription management system 24 over the path 44p connected to in-home user equipment 146, communications network 140, and the communications path 44p connected to transaction processing and subscription management

10 system 24. If the user is located at wireless user equipment 144 of FIG. 2, the wager may be wirelessly transmitted from wireless user equipment 144 to communications network 140 over wireless communications path 44q and subsequently provided to transaction

15 processing and subscription management system 24 over the path 44p connected to transaction processing and subscription management system 24.

At step 156, the interactive wagering application may use transaction processing and

20 subscription management system 24 to process the user's wager. If the user desires to place another wager, the user may select appropriate options in the interactive wagering application that take the user back to step 152 as shown by path 158. If the user is finished

25 using the interactive wagering application, the user may select an appropriate exit option to exit the application.

Sometimes more than one individual may desire to wager with the user equipment at the same time.

30 Multiple users of equipment such as wireless user equipment 144 may share equipment 144 by using individual passwords. This approach may also be used

by individuals for sharing equipment such as wireless user device 148 of user equipment 142.

If desired, equipment such as equipment 142 may include multiple wireless user devices 148, each of which may be used by a different user. Each user may provide a wireless user device 148 with a user ID and password or other suitable identifying information (e.g., a personal identification number (PIN)). The interactive wagering application may then provide each user with an independent link over which each individual user may obtain information and interact with the system. This allows multiple users to share a single simulcast broadcast that is displayed, for example, on in-home user equipment 146 (e.g., on a television or computer monitor), while allowing each user to create and submit wagers independently of each other.

Illustrative steps involved in using equipment 142 to support multiple users are shown in FIG. 10. At step 160, the interactive wagering application may be used to provide multiple users with opportunities to wirelessly provide information on their identities using wireless user device 148. For example, each user may be allowed to enter a user ID and password or a PIN or other identifier or identity information. These are merely illustrative examples. Any suitable user-specific personal information may be used to identify the users if desired.

At step 162, the interactive wagering application may use the identity information to verify the identity of each user and to determine whether each user is permitted to place wagers (e.g., each user has

a positive account balance and is a registered user, etc.).

At step 164, each user may be provided with an opportunity to create a wager or to otherwise  
5 interact with the interactive wagering application. For example, wager creation screens may be provided on the displays of wireless user devices 148 that the users may interact with to create wagers. When a given user has entered information specifying a track, race,  
10 wager type, wager amount, and horse for a wager, the user may be provided with an on-screen submit option on the display of the user's wireless user device 148. The user may select the submit option to wirelessly transmit the wager to in-home user equipment 142. In-  
15 home user equipment 142 may complete the wager submission process by providing the wager to transaction processing and subscription management system 24 over communications network 140 for processing. Each user at one of the wireless user  
20 devices 148 may also individually access information from the interactive wagering application. For example, users may independently access account information and racing data such as race results, wager results, handicapping information, etc.

25 The foregoing is merely illustrative of the principles of this invention and various modifications can be made by those skilled in the art without departing from the scope and spirit of the invention.